PATOKA LAKE

2004 Fish Management Report

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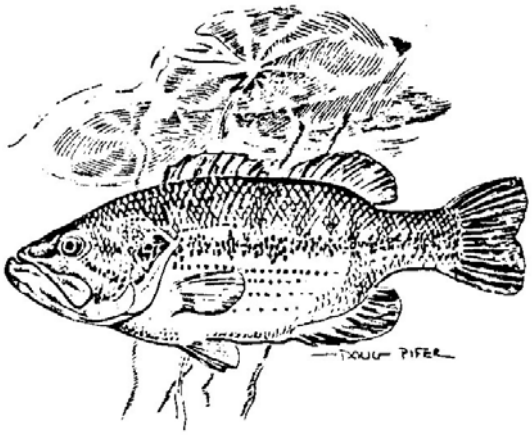

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PATOKA LAKE
Dubois, Orange, and Crawford Counties

Fish Management Report
2004

INTRODUCTION

Patoka Lake is an 8,800 acre flood control impoundment located in Dubois, Orange, and Crawford Counties. The reservoir was created in 1977 when a dam was completed across the Patoka River 13 miles east of Jasper. The Indiana Department of Natural Resources (IDNR) operates seven State Recreation Areas at the lake. The Newton-Stewart State Recreation Area is the most developed with campgrounds, swimming beach, visitors center, marina, and other attractions. Eleven boat launching ramps provide anglers and boaters access to the lake. Areas for bank fishing are numerous and are located by any road bordering the lake.

Patoka Lake is a multiple use resource and providing quality sport fishing has always been an important objective. A fish eradication project was initiated to remove problem fish such as carp and gizzard shad from the watershed prior to the initial restocking of the lake with sport fish. Largemouth bass were protected by a 14 inch minimum length limit through 1988. A 12 to 15 inch bass slot size limit was enacted in May 1989 to reduce the number of overabundant small bass. The slot limit was changed to a 15 inch minimum length limit in August 1996 to halt subslot size bass harvest as bass numbers were adequately reduced through the slot limit. This regulation was also timely due to the appearance of gizzard shad in the lake in June 1996 (Stefanavage 1997).

The 2004 fish management survey, bass tournament monitoring, striped bass survey, and spring crappie survey were conducted under Division of Fish and Wildlife (DFW) work plan 200739. Work plan objectives are: 1) Manage Patoka Lake to annually provide about 37,000 angler days of largemouth bass fishing, 33,000 days of bluegill/redear sunfish fishing, 15,000 days of crappie fishing, and 6,000 days of catfish fishing with an angler satisfaction rate of 63%, 2) Evaluate the surplus striped bass stockings and angler use, 3) Maintain the spring largemouth bass tournament catch rate of at least 0.05 legal bass caught per hour.

METHODS

FISH MANAGEMENT SURVEY

The survey was conducted from May 5 through May 25, 2004. The lake was divided into seven basins, each roughly 1,250 acres in size. All of the basins received 1 hour of electrofishing for a total of 7 hours night electrofishing. Electrofishing was further broken down into 15 minute stations to representatively sample different types of habitat such as wood, rip rap, aquatic vegetation, and relatively open shorelines. Two individuals collected fish stunned by the electrofishing boat. Netting effort included 24 overnight standard experimental gill net

lifts and 12 standard trap net lifts.

Fish collected were measured to the nearest 0.1 inch in total length. Weights for all species, except largemouth bass, were determined from the 1999 fish management survey data. Largemouth bass weights were determined from the 2002 fish management survey data. Scale samples were taken from a subsample of sport fish for age and growth determination. Water chemistry parameters were measured on May 17 as per standard survey guidelines. Dissolved oxygen and water temperature profiles were also recorded on May 24.

LARGEMOUTH BASS TOURNAMENT MONITORING SURVEY

Organizations conducting tournaments were asked to measure their own bass. They were provided with a measuring board, plastic washtub, and data sheets. Data sheet information included hours fished, number of participants, weight of big bass, and bass lengths to the nearest 0.5 inch. Data was then mailed to the district fisheries office.

STRIPED BASS SURVEY

Gill netting was conducted on July 19 through July 21. Netting effort consisted of 12 gill net lifts using 300 feet long multifilament nylon experimental gill nets with bar mesh sizes ranging from 1.5 to 3.0 inches. The gill nets were suspended 6 feet down from the surface in the main lake and five large floats were spaced evenly along the float line. All striped bass were measured to the nearest 0.1 inch and weighed to the nearest 0.01 pound. Scale samples were taken for age and growth determination. Dissolved oxygen and water temperature profiles were recorded on July 19.

No striped bass were stocked in 2004 due to hatchery production problems, therefore, the annual fall young-of-the-year striped bass sampling was not conducted.

SPRING CRAPPIE SURVEY

White and black crappie were sampled from March 22 through April 6 upstream from the Walls boat ramp near Kingsburry Bridge on County Road 450W. Sampling effort consisted of 27 overnight standard trap net lifts. All crappie were measured to the nearest 0.1 inch, and two per tenth-inch group were weighed to the nearest 0.01 pound. Scale samples were taken from a subsample of both species for age and growth determination. Air and water temperatures, pH, and dissolved oxygen levels were recorded daily.

RESULTS

FISH MANAGEMENT SURVEY

Twenty-six fish species and one hybrid were sampled. The total catch was 9,406 fish that weighed 2,821 pounds (Appendix A). Bluegill were most abundant by number followed by

gizzard shad, longear sunfish, largemouth bass, and channel catfish. Largemouth bass were most abundant by weight followed by common carp, channel catfish, and gizzard shad.

Water chemistry results were normal for Patoka Lake. The lake was thermally stratified on May 24. The thermocline was at 12 feet, while adequate dissolved oxygen levels for fish survival were found to a depth of 12 feet (Appendix A). The thermocline on July 19 was at 16 feet with sufficient oxygen for fish survival to the thermocline (Appendix C).

Bluegill

A total of 3,912 bluegill was sampled that weighed 266 pounds. Bluegill ranged in length from 1.4 to 8.1 inches. Bluegill ranked first in relative abundance by number (42%) and third by weight (10%) (Table 1). Bluegill relative abundance in 2003 was 52% by number and 14% by weight. The electrofishing catch rate was 497 per hour. The catch rate by length class substantially decreased for bluegill less than 6 inches in length, increased for the 6 to 8 inch size class, and was similar for bluegill greater than 8 inches compared to 2003 (Table 2). Catch rates by length classes were similar to 2002 results.

Table 1. Percent relative abundance by number and weight of selected species from Patoka Lake, 1984-2004.

	SPECIES PERCENT RELATIVE ABUNDANCE BY NUMBER AND (WEIGHT)								
Year	Gizzard shad No. (lbs)	Bluegill No. (lbs)	Largemouth bass No. (lbs)	Longear sunfish No. (lbs)	Redear sunfish No. (lbs)	Steelcolor shiner No. (lbs)	Channel catfish No. (lbs)	White crappie No. (lbs)	Other species No. (lbs)
1984	0 (0)	54 (24)	24 (54)	10 (6)	5 (6)	0 (0)	0 (0)	<1 (<1)	7 (10)
1987*	0 (0)	21 (7)	49 (37)	2 (<1)	15 (11)	2 (<1)	0 (0)	<1 (<1)	10 (45)
1989	0 (0)	32 (9)	47 (41)	4 (1)	9 (7)	2 (<1)	0 (0)	0 (0)	7 (41)
1991*	0 (0)	28 (14)	17 (30)	19 (5)	10 (12)	15 (1)	<1 (2)	2 (<1)	9 (35)
1994*	0 (0)	39 (17)	17 (21)	17 (6)	5 (8)	14 (<1)	<1 (3)	<1 (<1)	9 (46)
1996*	<1 (<1)	46 (20)	18 (30)	16 (4)	4 (6)	2 (<1)	<1 (4)	<1 (<1)	13 (37)
1997	58 (36)	20 (7)	9 (27)	7 (3)	1 (2)	1 (<1)	<1 (<1)	<1 (<1)	3 (24)
1998*	46 (32)	21 (7)	9 (30)	10 (3)	1 (2)	4 (<1)	<1 (3)	2 (2)	7 (21)
1999	50 (38)	16 (4)	9 (34)	21 (5)	1 (2)	<1 (<1)	<1 (3)	<1 (<1)	3 (14)
2000*	46 (26)	21 (4)	9 (25)	12 (2)	1 (1)	1 (<1)	2 (9)	4(2)	4 (31)
2001	59 (46)	13 (4)	8 (33)	13 (3)	1 (1)	4 (1)	<1 (1)	<1 (<1)	2 (12)
2002*	27 (9)	38 (7)	8 (20)	9 (1)	1 (1)	5 (<1)	2 (12)	3 (2)	7 (48)
2003	28 (22)	52 (14)	7 (38)	9 (3)	<1 (<1)	<1 (<1)	<1 (4)	<1 (<1)	3 (18)
2004*	31 (13)	42 (10)	7 (24)	8 (1)	1 (1)	<1 (<1)	3 (19)	3 (2)	6 (32)

*Electrofishing, gill nets and trap nets used, otherwise electrofishing only.

Table 2. Bluegill electrofishing catch per hour, Patoka Lake, 1985-2004.

	BLUEGILL ELECTROFISHING CATCH PER HOUR				
Year	<=2.9 inches	3.0 - 5.9 inches	6.0 - 7.9 inches	>=8.0 inches	Total
1985	12	80	12	0	104
1986	0	17	28	0	45
1987	45	16	39	1	101
1989	31	87	44	11	173
1991	28	123	30	5	186
1994	172	160	28	7	367
1996	144	238	42	7	431
1997	86	164	26	2	278
1998	80	138	13	1	232
1999	83	142	13	0	238
2000	62	198	10	<1	270
2001	32	254	19	0	305
2002	57	318	47	0	422
2003	90	812	15	0	917
2004	50	408	38	<1	497

Proportional stock density (PSD), as described by Anderson and Neumann (1996), increased from 2 (2003) to 9 (Figure 1). The PSD has been less than 11 since 1998. A PSD of 9 indicates that the bluegill population is comprised mostly of fish less than 6 inches in length. Bluegill relative stock density (RSD) index values, as described by Anderson and Neumann (1996), have decreased substantially since 1996. In 1996, the RSD7 index was 9. Since then, it has been less than 3 every year except in 1997 when it was 5. In 2004, the RSD7 index was 1. RSD8 values were 2 and 1 in 1996 and 1997, and 0 the last seven years. The bluegill fishing potential index (BGFP) value increased from 8 to 11 (out of a possible 40), which rates bluegill fishing at the low end of the marginal range (Ball and Tousignant 1996). The BGFP in 2001 and 2002 was 11. Bluegill growth was average when compared to district averages, however, it substantially declined since gizzard shad have become established in the lake (Figure 2). For example, an age 5 bluegill in 1996 averaged 8.8 inches compared to 6.9 inches in 2004.

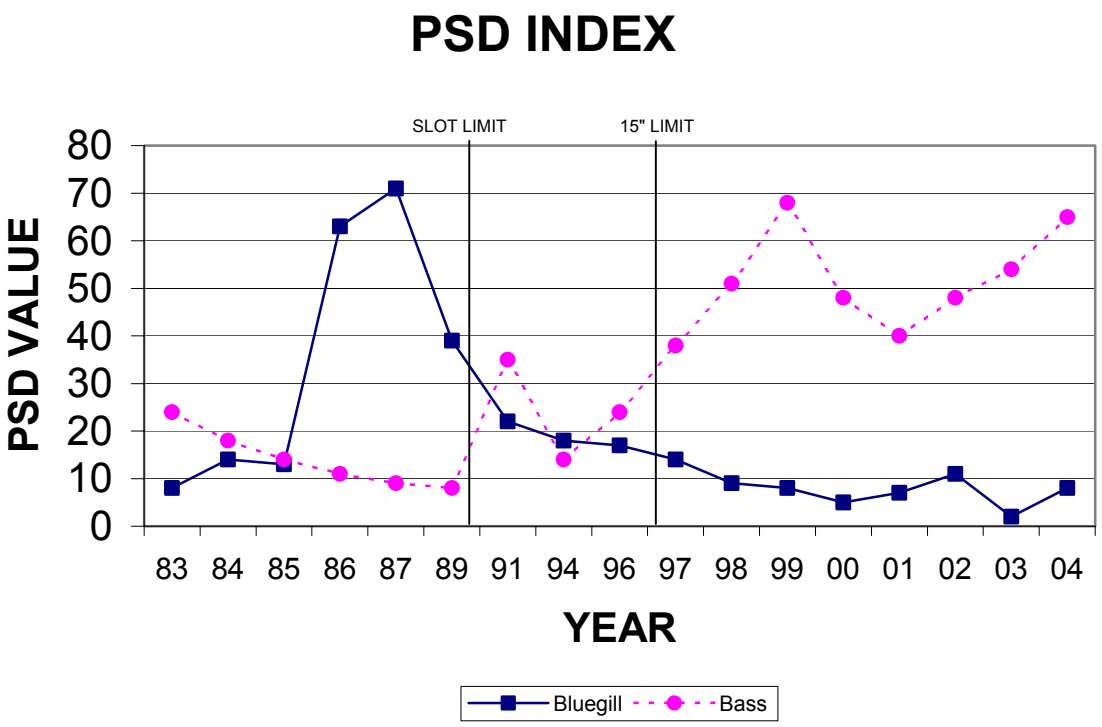

Figure 1. Bluegill and largemouth bass proportional stock density (PSD) index values, Patoka Lake, 1983-2004.

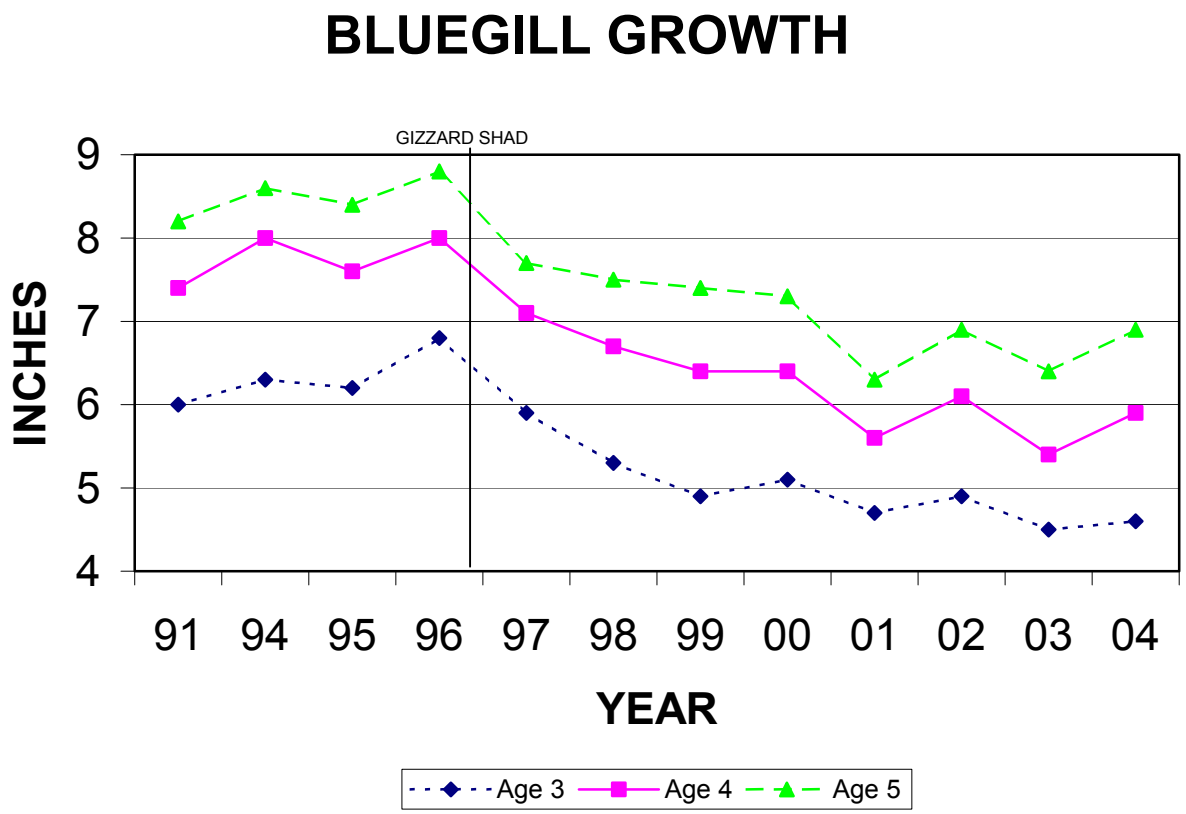

Figure 2. Bluegill growth rates for ages 3 through 5, Patoka Lake, 1991-2004.

Gizzard shad

DFW personnel first discovered gizzard shad in Patoka Lake in 1996. A total of four gizzard shad were collected in 1996. Sampling in 1997 indicated the gizzard shad population exploded in one year. With less than half the fish collection effort in 1997 as in 1996, 3,301 shad were sampled that weighed 358 pounds. Gizzard shad were the most abundant fish sampled by both number and weight from 1997 through 2001. Since 2001, shad have ranked second in relative abundance by number.

In 2004, 2,907 gizzard shad were sampled that weighed 359 pounds. They ranged in length from 3.2 to 12.1 inches. Gizzard shad accounted for 31% of the sample by number and 13% by weight (Table 1). The shad electrofishing catch rate decreased from 495 (2003) to 370 per hour. Previous electrofishing catch rates were 825 (1997), 637 (1998), 732 (1999), 581 (2000), 1,401 (2001), and 274 per hour (2002).

Largemouth bass

A total of 616 largemouth bass was sampled that weighed 672 pounds. They ranged in length from 2.7 to 21.2 inches. Relative abundance was 7% by number and 24% by weight. Largemouth bass relative abundance over the last seven years has been stable. The electrofishing catch rate decreased from 114 to 87 per hour. The electrofishing catch rate for bass less than 12 inches decreased by 40%, while catch rates for bass larger than 12 inches remained the same. Catch rates by length class were similar to 2002 results (Table 3). Bass growth was at the high end of the average range when compared to the district average and slightly declined from 2003 results (Table 4). An age 5 bass averaged 15.0 inches while an age 6 bass averaged 16.4 inches. Growth should be exceptional for larger bass that can effectively prey on gizzard shad.

The proportion of larger bass in Patoka's bass population increased from 2003 to 2004 as indicated by PSD and RSD index values (Figure 1). The PSD in 2004 was 65, while in 2003 it was 54.

Bass RSD14 values increased from 30 to 38. The RSD15 index value (28) has continued to increase since 1997. Previous RSD15 index values were 4 (1997), 7 (1998), 11 (1999), 13 (2000), 16 (2001), 18 (2002), and 21 (2003). These index values indicate that bass fishing for legal size fish should be excellent.

Channel catfish

A total of 299 channel catfish was sampled that weighed 548 pounds. They ranged in length from 5.7 to 28.7 inches. Channel catfish relative abundance was 3% by number and 19% by weight. The average length of the sampled channel catfish was 16.4 inches and 23% were greater than 20 inches. The electrofishing catch rate was 5 per hour and the gill net catch rate was 11 per lift. The 2003 electrofishing catch rate was 2 per hour while the 2002 gill net catch rate was 7 per lift.

Table 3. Largemouth bass electrofishing catch per hour, Patoka Lake, 1985-2004.

	LARGEMOUTH BASS ELECTROFISHING CATCH PER HOUR					
Year	3.0 - 7.9 inches	8.0 - 11.9 inches	12.0 - 14.9 inches	15.0 - 19.9 inches	>=20.0 inches	Total
1985	37	105	14	3	<1	159
1986	67	128	10	4	1	210
1987	166	174	13	4	<1	357
1989	55	196	8	<1	1	260
1991**	62	111	46	4	<1	223
1991	51	55	28	2	0	136
1994**	125	144	16	3	<1	288
1994	110	77	10	2	<1	199
1996	84	71	18	4	<1	177
1997	23	62	32	4	0	121
1998	38	56	38	6	0	138
1999	28	27	48	8	1	112
2000	38	45	30	11	<1	124
2001	20	102	41	31	0	194
2002	19	41	25	14	<1	100
2003	25	41	29	19	<1	114
2004	15	25	27	19	<1	87

**Spring collection where bass were the only species collected.

Table 4. Largemouth bass average back calculated lengths (inches), Patoka Lake, 1984-2004.

	LARGEMOUTH BASS AGE (years)						
Year	One	Two	Three	Four	Five	Six	Seven
1984	4.4	8.1	11.1	14.2	16.5		
1987	4.4	7.8	10.6	12.7	14.7	16.7	
1989	5	8.4	11	12.6	13.6		
1991	5.2	8.8	11.5	13.7	15.3	16.3	
1994	5.1	9.1	12.2	14.4	16	17.4	
1995	5.1	9.1	11.9	14.4	16.4		
1996	5.7	9.6	12.9	14.9	17	18.9	
1997	5	8.9	11.6	13.7	15.2	16.8	
1998	4.9	8.9	11.4	13.5	15.2	16.2	
1999	4.1	7.5	10.5	13.2	15	15.9	
2000	5.4	9.5	12.5	14.8	16.5	17.9	19.4
2001	5.1	9.3	12.1	14.3	15.9	17.2	18.2
2002	5.1	9.1	12.6	14.7	16.6	18.4	19.7
2003	4.3	8.0	10.9	13.4	15.6	17.3	18.5
2004	4.3	7.8	10.7	13.3	15	16.4	17.5
District avg.	4.3	7.7	10.3	12.2	13.9	16.1	17.4

White crappie and black crappie

A total of 251 white crappie and 26 black crappie was sampled during the survey. White crappie ranged in length from 3.7 to 17.0 inches, while black crappie ranged in length from 3.5 to 10.5 inches. Relative abundance by number was less than 1% for both species. The white crappie catch rates were 6 per electrofishing hour, 8 per gill net lift, and 1 per trap net lift. Black crappie catch rates were less than 1 for all three gear types. All catch rates were similar to previous results. White and black crappie growth was average compared to the district averages but poor compared to Hovey Lake, which is the other major white crappie fishery in the district (Carnahan 2002). Age 4 and 5 white crappie at Hovey Lake averaged 11.1 and 12.4 inches, while the same age fish at Patoka Lake averaged 8.4 and 9.8 inches (Table 5).

Table 5. White crappie average back calculated lengths (inches), Patoka Lake, 1991-2004.

	WHITE CRAPPIE AGE (years)						
Year	One	Two	Three	Four	Five	Six	Seven
1991	3.2	5.6	8.3				
1994	3.7	7.2	9.1				
1996	3.5	7.0	9.2				
1998	3.2	6.6	9.7				
1999	3.0						
2000	3.1	6.5	9.5	11.5	13.1		
2001	2.9	6.1	8.9	10.4			
2002-April	3.5	5.7	7.7	9.7	11.7	13.2	14.7
2002-May	3.3	5.7	7.4	9.1			
2003-April	3.6	5.4	6.8	8.6	10.3	12.4	
2003-May	3.3	5.7	7.2	8.9			
2004-April	3.9	5.4	6.7	7.9	9.6	11.1	13.5
2004-May	3.5	5.8	7.3	8.4	9.8	11.6	12.3
District avg.	3.2	5.7	7.5	8.9	10.1	12.1	

Redear sunfish

A total of 87 redear sunfish was sampled that weighed 23 pounds. They ranged in length from 2.7 to 9.3 inches. Relative abundance was 1% by number and weight and similar to 2003 results. Catch rates were 6 per electrofishing hour, less than 1 per gill net lift, and 2 per trap net lift. Growth was approximately a half to 1 inch slower than the district averages for ages 2 through 6.

White bass

Seventy-three white bass were sampled that weighed 74 pounds. They ranged in length from 5.9 to 16.3 inches. Relative abundance was less than 1% by number and 2% by weight.

Catch rates were 4 per electrofishing hour and 2 per gill net lift. Growth was good and similar to 2002 results. The four year old white bass averaged 14.3 inches.

Other fish species

Eighteen species and two hybrid sunfish comprised the remainder of the sample. Collectively, they accounted for 13% of the collection by number and 28% by weight (Appendix A). Longear sunfish, warmouth, spotted sucker, green sunfish, and common carp were the five most abundant "other fish" species sampled by number while common carp and spotted sucker accounted for most of the weight. Other game fish species sampled were 39 smallmouth bass, 11 striped bass, three flathead catfish, and one sauger. The smallmouth bass ranged in length from 3.7 to 15.4 inches. The striped bass ranged in length from 12.1 to 31.5 inches. Flathead catfish are starting to become more abundant in the lake. One extra 15 minute electrofishing run was conducted on June 15 exclusively sampling for flatheads. Eight were sampled that ranged in length from 9.4 to 19.1 inches.

LARGEMOUTH BASS TOURNAMENT MONITORING SURVEY

Twenty-four bass tournaments reported their catch data in 2004 for a total of 26 monitored tournament days (Table 6). Twelve tournament days were in the spring (March through May), seven during the summer (June through August), and seven in the fall (September and October). Twenty-four tournaments also reported data in 2003. A total of 3,677 anglers fished in the reporting tournaments weighing in a total of 3,381 legal size bass (Appendix B). The overall catch rate was 0.143 legal size bass weighed in per hour, which equates to 7 hours fished per legal bass weighed in. This was an improvement from 2003 and 1996 when it took 10 and 38 hours fished per legal bass weighed in. The average length of the weighed in bass increased from 16.5 inches to 16.9 inches. The average weight of the big bass weighed in was 5.73 pounds and the heaviest bass was 7.08 pounds. This was the fourth year that summer tournaments were permitted on Patoka Lake.

A total of 2,877 legal size bass were weighed in during spring tournaments, 469 in summer tournaments, and 627 in fall tournaments (Table 7). The spring tournaments reported the highest catch rate (0.146 legal bass per hour) followed by summer and fall tournaments. The spring tournament catch rate has been increasing since 1996 (Figure 3). Individual tournament results are in Appendix B.

STRIPED BASS SURVEY

Patoka Lake received its first striped bass stocking on June 26, 1997. Striped bass were not stocked in 2000, 2003, and 2004 due to problems with hatchery production. A total of 527,000 fingerlings have been stocked since 1997.

Table 6. Largemouth bass tournaments that reported catch data, Patoka Lake, 2004.

Date	Organization
3/14	Hoosier Open Tournaments
3/20	Jefferson Township Fire Department
3/21	Patoka Valley Bassmasters
3/28	IBF-Invitational Tournament Trail
4/3	Teamsters Local 135
4/4	Got 2 Love It Bass Tournament Inc.
4/18	Jasper Bassmasters
4/21	Indiana senior Bass Tournaments
5/15	IBF-Zone 2 Top 8
5/16	Team Supreme
5/22*	Wal-Mart BFL
5/23	KillBuck Valley Sports
6/6	Team Supreme
6/12	Discount Labels Inc.
6/19	Anglers Choice-Indiana Team Trail
6/27	Team Supreme
7/17	Team Supreme
8/15	Hoosier Open Tournaments
8/22	Team Supreme
9/11	Teamsters Local 135
9/12	Jasper Bassmasters
9/25	Hoosier Open Tournaments Classic
9/26	Hoosier Open Tournaments Classic
10/2	Jefferson Township Fire Department
10/2*	IBF Classic
10/3*	IBF Classic

*Indicates tournament data from internet.

Table 7. Length (inches) and catch rates of largemouth bass weighed in at bass tournaments, Patoka Lake, 2004.

	TOURNAMENTS				
Length (inches)	Spring	Summer	Fall	Totals	Percent
15	413	82	89	584	14.7
15.5	167	78	70	315	7.9
16	454	73	64	591	14.9
16.5	168	55	54	277	7.0
17	365	57	61	483	12.2
17.5	112	27	42	181	4.6
18	274	33	34	341	8.6
18.5	105	15	24	144	3.6
19	149	16	16	181	4.6
19.5	44	7	8	59	1.5
20	72	5	6	83	2.1
20.5	22	7	5	34	0.9
21	40	5	4	49	1.2
21.5	11	1	3	15	0.4
22	9	2	0	11	0.3
22.5	3	3	1	7	0.2
23	9	2		11	0.3
23.5	1	0		1	<0.1
24	5	1		6	0.2
24.5	1			1	<0.1
25	6			6	0.2
25.5					
26	1			1	<0.1
Not measured	446		146	592	14.9
Total catch	2,877	469	627	3,973	
Number of anglers	2,364	491	822	3,677	
Catch rate (#/hr)	0.146	0.113	0.091	0.143	
Avg. big bass weight	5.91	5.68	5.36	5.73	

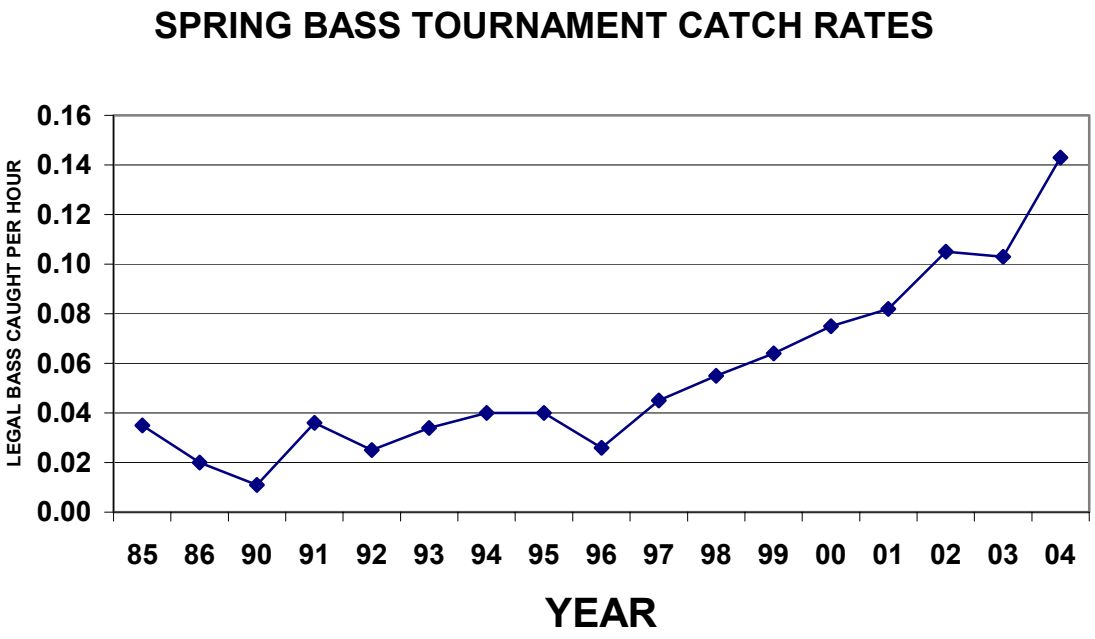

Figure 3. Spring tournament catch rates of largemouth bass longer than 15 inches, Patoka Lake, 1985, 1986, and 1990-2004.

A total of 43 striped bass was sampled that weighed 399.25 pounds (Appendix C). They ranged in length from 26.3 to 33.8 inches and averaged 9.28 pounds. The gill net catch rate decreased from 4.5 per gill net lift in 2003 to 3.6. The 2002 catch rate was the same as in 2004. All the striped bass sampled came from the 1997, 1998, and 1999 stockings. Growth was similar to 2003 results. Age 5, 6, and 7 striped bass averaged 26.7, 29.1, and 31.4 inches. During the standard survey seven striped bass were sampled from the 2002 year class. These 2 year olds should start appearing in the next striped bass survey.

SPRING CRAPPIE SURVEY

A total of 1,773 white crappie was sampled that weighed 183.84 pounds (Appendix D). They ranged in length from 3.5 to 15.2 inches. Seventy-five percent of the white crappie sampled were less than 7 inches long, and 95% were less than 8 inches. The trap net catch rate was 65 per lift. Catch rates in 2002 and 2003 were 41 and 13 per lift. Crappie growth was similar to the fish management survey results.

A total of 167 black crappie was sampled that weighed 21 pounds (Appendix D). They ranged in length from 2.8 to 16.4 inches. The trap net catch rate was 6 per lift. Catch rates in 2002 and 2003 were 2 and 5 per lift. Their growth was slightly below average compared to the district averages, but most of the district's black crappie age and growth data is from Patoka Lake. Age 3 and 4 fish averaged 6.4 and 7.3 inches which can be considered slow for good

crappie fishing lakes. The district 6 average growth for age 3 and 4 black crappie is 8.7 and 10.0 inches.

CONCLUSIONS

Best fishing at Patoka Lake in 2004 was for largemouth bass, channel catfish, white crappie, and striped bass. Largemouth bass fishing is excellent for legal size fish as indicated by electrofishing catch rates and RSD index values. Also, the bass tournament catch rates continue to improve while the average length of the bass weighed in at tournaments increased to 16.9 inches. Channel catfish fishing continues to improve annually. The channel catfish gill net catch rate nearly doubled from 2002 and 23% of the channel catfish sampled were at least 20 inches long. White crappie fishing is good for catching large numbers of crappie, with the opportunity to catch some large individuals. Striped bass fishing is good for larger fish and a strong year class of two year olds should grow to larger sizes in the next few years. Striped bass averaged 9.28 pounds with some fish approaching 15 pounds.

The largemouth bass population size structure continued to improve in 2004. The PSD index increased to 65, while the RSD15 increased to 28. Also, the RSD14 increased from 30 to 38. These indices indicate that the proportion of larger bass in the population has increased. However, even though a PSD of 65 is a good indicator of a well balanced population, the high PSD suggests that recruitment of small bass is declining. This is supported by the 40% decrease in electrofishing catch rates for bass less than 12 inches. The number of larger bass in the lake will decrease over time if recruitment does not improve.

The bluegill population is still in poor condition compared to the preshad years. Only 2% of the bluegill sample exceeded 7 inches. Since gizzard shad have become established, all bluegill population indices have substantially declined from 1996 levels.

Spring trap netting for crappie has indicated that there have been large year classes produced every year from 1999 through 2001 and 2003. Increased crappie abundance has negatively affected growth, resulting in an abundance of small slow growing fish. A crappie minimum size limit has been suggested by some Patoka Lake anglers, but a minimum size limit would increase the population numbers slowing growth even more.

The striped bass population is doing good at the lake. The limiting factor for producing an excellent striper fishery is the availability of fingerlings to stock. Over the life of the eight year striped bass stocking program, the lake has not received striped bass in three years (2000, 2003, 2004) and a stocking at half the rate in one year (1999). The DFW needs to investigate alternative striped bass fingerling sources.

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Submitted by: Daniel P. Carnahan, Fisheries Biologist
Date: January 13, 2005

Approved by: _____
Brian M. Schoenung, Fisheries Supervisor
Date: April 25, 2005

APPENDIX A

FISH MANAGEMENT SURVEY DATA

LAKE SURVEY REPORT

Type of Survey: [ ] Initial Survey [X] Re-Survey

Lake Name	County	Date of survey (Month, day, year)
Patoka Lake	Dubois, Orange, Crawford	5/5-25/04
Biologist's name		**Date of approval (Month, day, year)**
Daniel P. Carnahan		4/25/2005

LOCATION

Quadrangle Name	Range	Section
Birdseye, Cuzco, Greenbrier, Taswell	1W, 2W, 3W	9,16-21,29,30/7-11,14-22, 25-31,33-36/7/1-3,6,10-12/1-12
Township Name	**Nearest Town**	
1S, 2S	Jasper	

ACCESSIBILITY

State owned public access site	Privately owned public access site	Other access site
10 Concrete ramps, 1 unimproved ramp		

Surface acres	Maximum depth	Average depth	Acre feet	Water level	Extreme fluctuations
8,880	52 Ft.	21 Ft.	186-480	536 MSL	8 Feet

Location of benchmark

Water level data from Operating Log for Patoka Lake.

INLETS

Name		Location		Origin	
Allen Creek	Painter Creek	T2S,R2W,S11	T1S,R2W,S11	T2S,R2W,S36	T1S,R1W,S7
Cane Branch	Patoka River	T1S,R1W,S21	T1S,R1W,S16	T1S,R1W,S22	T1S,R2E,S30
Dumplin Branch	Riceville Creek	T1S,R1W,S29	T2S,R3W,S12	T1S,R1W,S33	T2S,R2W,S20
Fleming Creek	Ritter Creek	T2S,R2W,S10	T2S,R2W,S6	T2S,R2W,S22	T2S,R2W,S21
Jordan Branch	Sycamore Creek	T1S,R2W,S10	T2S,R1W,S7	T1S,R2W,S34	T2S,R1W,S9
Lickfork Creek	Youngs Creek	T2S,R3W,S13	T1S,R1W,S9	T2S,R3W,S24	T1N,R1E,S30

OUTLETS

Name	Location
Patoka River	T1S, R3W, S14

Water level control

Concrete control tower with two 4x6 foot service gates

POOL	ELEVATION (Feet MSL)	ACRES
TOP OF DAM	566	
TOP OF FLOOD CONTROL POOL	548	11,300
TOP OF CONSERVATION POOL	536	8,880
TOP OF MINIMUM POOL	506	2,010
STREAMBED	484	

Bottom type

- [X] Bolder
- [X] Gravel
- [X] Sand
- [ ] Muck
- [X] Clay
- [ ] Marl

Watershed use

Agriculture, forest. (Watershed area is approx. 168 sq. miles)

Development of shoreline

Two Patoka Lake State Recreational Areas, otherwise natural.

Previous surveys and investigations

Pre-Impoundment survey 1972; Fisheries survey of the watershed above, in and below Patoka Lake, 1978;

Standard fish management surveys, 1981, 1983, 1984, 1987, 1989, 1991, 1994, 1996, 1998, 2000, and 2002.

Spot check surveys, 1995, 1997, 1999, 2001, and 2003. Largemouth bass research study, 1985 and 1986.

Angler creel surveys, 1981, 1982, 1985, 1986, 1989, 1991, 1994, 1996, 2000 and 2003. Largemouth bass

tournament monitoring surveys, 1985, 1986, and 1999 through 2003.

SAMPLING EFFORT					
ELECTROFISHING	Day hours		Night hours 7.00		Total hours 7.00
TRAP NETS	Number of traps 2		Number of Lifts 6		Total effort 12 Lifts
GILL NETS	Number of nets 4		Number of Lifts 6		Total effort 24 Lifts
ROTENONE	Gallons	ppm	Acre Feet Treated	SHORELINE SEINING	Number of 100 Foot Seine Hauls

PHYSICAL AND CHEMICAL CHARACTERISTICS May 17, 2004	
Color: Clear green	Turbidity: 5 Feet 8 Inches (SECCHI DISK)
Alkalinity (ppm)*: Surface: 68.4 Bottom: 68.4	pH: Surface: 8.8 Bottom: 7.6
Conductivity: 172 Siemens	Air temperature: 75.0 °F
Water chemistry GPS coordinates: N 38° 26.01	W 86° 41.47

TEMPERATURE AND DISSOLVED OXYGEN (D.O.) May 17, 2004								
DEPTH (FEET)	Degrees (°F)	D.O. (ppm)	DEPTH (FEET)	DEGREES (°F)	D.O. (ppm)	DEPTH (FEET)	DEGREES (°F)	D.O. (ppm)
SURFACE	71.0	10.4	36			72		
2	70.5	10.2	38			74		
4	70.5	10.3	40			76		
6	70.0	9.4	42			78		
8	70.0	9.2	44			80		
10	69.5	9.2	46			82		
12	68.5	11.3	48			84		
14	66.0	9.8	50			86		
16	64.0	9.3	52			88		
18	63.0	8.9	54			90		
20	62.0	8.7	56			92		
22	61.5	14.4	58			94		
24	61.0	15.0	60			96		
26	60.0	15.5	62			98		
28	59.5	16.9	64			100		
30	59.0	17.7	66					
32	58.5	8.3	68					
34			70					

COMMENTS

*ppm-parts per million

SAMPLING EFFORT					
ELECTROFISHING	Day hours		Night hours		Total hours
TRAP NETS	Number of traps		Number of Lifts		Total effort
GILL NETS	Number of nets		Number of Lifts		Total effort
ROTENONE	Gallons	ppm	Acre Feet Treated	SHORELINE SEINING	Number of 100 Foot Seine Hauls

PHYSICAL AND CHEMICAL CHARACTERISTICS	
Color	Turbidity Feet Inches (SECCHI DISK)
Alkalinity (ppm)* Surface: Bottom:	pH Surface: Bottom:
Conductivity: Siemens	Air temperature: °F
Water chemistry GPS coordinates: N 38° 23.38	W 86° 35.90

TEMPERATURE AND DISSOLVED OXYGEN (D.O.) May 24, 2004								
DEPTH (FEET)	Degrees (°F)	D.O. (ppm)	DEPTH (FEET)	DEGREES (°F)	D.O. (ppm)	DEPTH (FEET)	DEGREES (°F)	D.O. (ppm)
SURFACE	78.0	8.6	36			72		
2	78.0	8.1	38			74		
4	78.0	8.1	40			76		
6	77.5	8.1	42			78		
8	77.0	8.1	44			80		
10	76.5	7.6	46			82		
12	71.0	5.5	48			84		
14	67.0	4.3	50			86		
16	66.0	3.7	52			88		
18	64.0	3.1	54			90		
20	62.5	2.6	56			92		
22	61.5	1.9	58			94		
24	60.0	1.2	60			96		
26	59.5	0.9	62			98		
28			64			100		
30			66					
32			68					
34			70					

COMMENTS

*ppm-parts per million

SPECIES AND RELATIVE ABUNDANCE OF FISHES COLLECTED BY NUMBER AND WEIGHT					
*COMMON NAME OF FISH	NUMBER	PERCENT	LENGTH RANGE (inches)	WEIGHT (pounds)	PERCENT
Bluegill	3,912	41.6	1.4 - 8.1	266.95	9.5
Gizzard shad	2,907	30.9	3.2 - 12.1	359.68	12.7
Longear sunfish	767	8.2	1.6 - 5.8	35.72	1.3
Largemouth bass	616	6.5	2.7 - 21.2	672.50	23.8
Channel catfish	299	3.2	5.7 - 28.7	548.16	19.4
White crappie	251	2.7	3.7 - 17.0	62.71	2.2
Redear sunfish	87	0.9	2.7 - 9.3	23.90	0.8
Warmouth	80	0.9	1.8 - 8.2	8.58	0.3
White bass	73	0.8	5.9 - 16.3	74.37	2.6
Spotted sucker	71	0.8	5.9 - 17.4	92.50	3.3
Green sunfish	62	0.7	2.1 - 7.4	3.37	0.1
Common carp	61	0.6	19.3 - 32.7	566.07	20.1
Steelcolor shiner	61	0.6	2.2 - 4.3	2.28	0.1
Bluntnose minnow	47	0.5	1.8 - 3.5	0.27	<0.1
Smallmouth bass	39	0.4	3.7 - 15.4	10.60	0.4
Black crappie	26	0.3	3.5 - 10.5	6.86	0.2
Striped bass	11	0.1	12.1 - 31.5	45.56	1.6
White sucker	9	0.1	11.3 - 16.5	5.64	0.2
Yellow bullhead	9	0.1	8.5 - 12.0	5.92	0.2
Freshwater drum	5	0.1	14.8 - 16.6	9.06	0.3
Flathead catfish	3	<0.1	14.0 - 15.5	3.88	0.1
Blackstripe topminnow	2	<0.1	2.2	0.02	<0.1
Bowfin	2	<0.1	26.1 - 28.2	13.65	0.5
Golden shiner	2	<0.1	5.0 - 9.4	0.09	<0.1
Hybrid bluegill	2	<0.1	4.8 - 5.1	0.16	<0.1
Redfin shiner	1	<0.1	2.6	0.01	<0.1
Sauger	1	<0.1	20.6	2.79	0.1
Totals	9,406			2,821.30	

*Common names of fishes recognized by the American Fisheries Society.

NUMBER, PERCENTAGE, WEIGHT, AND AGE OF BLUEGILL									
TOTAL LENGTH (inches)	NUMBER COLLECTED	PERCENT OF FISH COLLECTED	AVERAGE WEIGHT (pounds)	AGE OF FISH	TOTAL LENGTH (inches)	NUMBER COLLECTED	PERCENT OF FISH COLLECTED	AVERAGE WEIGHT (pounds)	AGE OF FISH
1.0					19.0				
1.5	4	0.1	0.01	1	19.5				
2.0	109	2.8	0.01	1	20.0				
2.5	207	5.3	0.01	1, 2	20.5				
3.0	207	5.3	0.02	1, 2	21.0				
3.5	297	7.6	0.03	2	21.5				
4.0	387	9.9	0.04	2, 3	22.0				
4.5	1,493	38.2	0.06	3	22.5				
5.0	601	15.4	0.08	3	23.0				
5.5	214	5.5	0.11	3, 4	23.5				
6.0	170	4.3	0.15	4	24.0				
6.5	142	3.6	0.19	4, 5	24.5				
7.0	63	1.6	0.25	5, 6	25.0				
7.5	15	0.4	0.31	5, 6, 7	25.5				
8.0	3	0.1	0.38	6	26.0				
8.5					TOTAL	3,912			
9.0									
9.5									
10.0									
10.5									
11.0									
11.5									
12.0									
12.5									
13.0									
13.5									
14.0									
14.5									
15.0									
15.5									
16.0									
16.5									
17.0									
17.5									
18.0									
18.5									

ELECTROFISHING CATCH	496.9/ hr	GILL NET CATCH	1.5 /lift	TRAP NET CATCH	33.2 /lift

NUMBER, PERCENTAGE, WEIGHT, AND AGE OF LARGEMOUTH BASS									
TOTAL LENGTH (inches)	NUMBER COLLECTED	PERCENT OF FISH COLLECTED	AVERAGE WEIGHT (pounds)	AGE OF FISH	TOTAL LENGTH (inches)	NUMBER COLLECTED	PERCENT OF FISH COLLECTED	AVERAGE WEIGHT (pounds)	AGE OF FISH
1.0					19.0	9	1.5	3.72	8
1.5					19.5	9	1.5	4.07	not aged
2.0					20.0	1	0.2	4.10	not aged
2.5	1	0.2	0.02	1	20.5				
3.0	7	1.1	0.02	1	21.0	2	0.3	5.00	8, 9
3.5	10	1.6	0.02	1	21.5				
4.0	3	0.5	0.03	1	22.0				
4.5	11	1.8	0.04	1	22.5				
5.0	13	2.1	0.05	1	23.0				
5.5	21	3.4	0.07	1	23.5				
6.0	19	3.1	0.08	1	24.0				
6.5	13	2.1	0.11	1	24.5				
7.0	8	1.3	0.15	1, 2	25.0				
7.5	1	0.2	0.19	2	25.5				
8.0	3	0.5	0.20	2	26.0				
8.5	14	2.3	0.25	2	TOTAL	616			
9.0	23	3.7	0.32	2, 3					
9.5	26	4.2	0.38	3					
10.0	22	3.6	0.42	2, 3					
10.5	29	4.7	0.52	3					
11.0	16	2.6	0.60	3					
11.5	26	4.2	0.70	3, 4					
12.0	44	7.1	0.86	3, 4					
12.5	35	5.7	0.95	3, 4					
13.0	36	5.8	1.08	3, 4					
13.5	33	5.4	1.28	4					
14.0	30	4.9	1.39	4					
14.5	26	4.2	1.51	4, 5					
15.0	16	2.6	1.70	4, 5					
15.5	26	4.2	1.84	5					
16.0	31	5.0	2.08	5, 6					
16.5	18	2.9	2.26	6					
17.0	13	2.1	2.40	6, 7					
17.5	14	2.3	2.89	6, 7					
18.0	4	0.6	3.22	7					
18.5	3	0.5	3.18	7					

ELECTROFISHING CATCH	87.4/hr	GILL NET CATCH	0.2 /lift	TRAP NET CATCH	0.0 /lift

NUMBER, PERCENTAGE, WEIGHT, AND AGE OF CHANNEL CATFISH									
TOTAL LENGTH (inches)	NUMBER COLLECTED	PERCENT OF FISH COLLECTED	AVERAGE WEIGHT (pounds)	AGE OF FISH	TOTAL LENGTH (inches)	NUMBER COLLECTED	PERCENT OF FISH COLLECTED	AVERAGE WEIGHT (pounds)	AGE OF FISH
1.0		0.0			19.0	12		2.25	
1.5					19.5	8		2.41	
2.0					20.0	9		2.65	
2.5					20.5	6		3.05	
3.0					21.0	7		3.19	
3.5					21.5	4		3.50	
4.0					22.0	14		3.18	
4.5					22.5	4		4.50	
5.0					23.0	2		3.63	
5.5	1	0.3	0.03	not aged	23.5	1		4.10	
6.0					24.0	8		4.47	
6.5					24.5	3		5.30	
7.0					25.0	1		5.76	
7.5					25.5	2		6.22	
8.0					26.0	3		6.60	
8.5					26.5				
9.0	2	0.7	0.21		27.0	2		7.43	
9.5	3	1.0	0.24		27.5	3		9.49	
10.0	1	0.3	0.30		28.0				
10.5	5	1.7	0.43		28.5	1		8.98	
11.0	19	6.4	0.46		TOTAL	299			
11.5	28	9.4	0.45						
12.0	14	4.7	0.51						
12.5	13	4.3	0.68						
13.0	8	2.7	0.86						
13.5	7	2.3	0.78						
14.0	12	4.0	0.80						
14.5	12	4.0	0.94						
15.0	16	5.4	1.15						
15.5	9	3.0	1.14						
16.0	5	1.7	1.39						
16.5	6	2.0	1.44						
17.0	9	3.0	1.53						
17.5	10	3.3	1.78						
18.0	12	4.0	1.95						
18.5	17	5.7	2.01						

ELECTROFISHING CATCH	5.1/hr	GILL NET CATCH	10.9/lift	TRAP NET CATCH	0.1/lift

NUMBER, PERCENTAGE, WEIGHT, AND AGE OF WHITE CRAPPIE									
TOTAL LENGTH (inches)	NUMBER COLLECTED	PERCENT OF FISH COLLECTED	AVERAGE WEIGHT (pounds)	AGE OF FISH	TOTAL LENGTH (inches)	NUMBER COLLECTED	PERCENT OF FISH COLLECTED	AVERAGE WEIGHT (pounds)	AGE OF FISH
1.0					19.0				
1.5					19.5				
2.0					20.0				
2.5					20.5				
3.0					21.0				
3.5	1	0.4	0.03	1	21.5				
4.0	3	1.2	0.03	1	22.0				
4.5	9	3.6	0.03	1	22.5				
5.0	3	1.2	0.05	1	23.0				
5.5	1	0.4	0.06	1	23.5				
6.0	9	3.6	0.09	2	24.0				
6.5	29	11.6	0.11	2, 3	24.5				
7.0	49	19.5	0.15	2, 3	25.0				
7.5	32	12.7	0.18	3, 5	25.5				
8.0	22	8.8	0.22	3, 4	26.0				
8.5	29	11.6	0.25	3, 4, 5	TOTAL	251			
9.0	18	7.2	0.31	4, 5					
9.5	19	7.6	0.38	3, 4, 5					
10.0	9	3.6	0.42	4, 5					
10.5	5	2.0	0.51	4, 5					
11.0	3	1.2	0.57	5					
11.5	2	0.8	0.79	6					
12.0	2	0.8	0.92	6, 7					
12.5	2	0.8	1.08	7					
13.0	2	0.8	1.26	6, 7					
13.5									
14.0									
14.5	1	0.4	1.72	not aged					
15.0									
15.5									
16.0									
16.5									
17.0	1	0.4	2.25	not aged					
17.5									
18.0									
18.5									

ELECTROFISHING CATCH	5.9/hr	GILL NET CATCH	8.0/lift	TRAP NET CATCH	1.5/lift

NUMBER, PERCENTAGE, WEIGHT, AND AGE OF REDEAR SUNFISH									
TOTAL LENGTH (inches)	NUMBER COLLECTED	PERCENT OF FISH COLLECTED	AVERAGE WEIGHT (pounds)	AGE OF FISH	TOTAL LENGTH (inches)	NUMBER COLLECTED	PERCENT OF FISH COLLECTED	AVERAGE WEIGHT (pounds)	AGE OF FISH
1.0					19.0				
1.5					19.5				
2.0					20.0				
2.5	1	1.1	0.01	1	20.5				
3.0					21.0				
3.5					21.5				
4.0	1	1.1	0.07	3	22.0				
4.5	3	3.4	0.06	2, 3	22.5				
5.0					23.0				
5.5	2	2.3	0.13	3	23.5				
6.0	3	3.4	0.15	3	24.0				
6.5	13	14.9	0.20	3, 4	24.5				
7.0	18	20.7	0.23	4	25.0				
7.5	21	24.1	0.28	5, 6	25.5				
8.0	12	13.8	0.36	5, 6	26.0				
8.5	5	5.7	0.40	6	TOTAL	87			
9.0	7	8.0	0.49	5, 6, 7					
9.5	1	1.1	0.56	5					
10.0									
10.5									
11.0									
11.5									
12.0									
12.5									
13.0									
13.5									
14.0									
14.5									
15.0									
15.5									
16.0									
16.5									
17.0									
17.5									
18.0									
18.5									

ELECTROFISHING CATCH	6.3/hr	GILL NET CATCH	0.6/lift	TRAP NET CATCH	2.4/lift

NUMBER, PERCENTAGE, WEIGHT, AND AGE OF WHITE BASS									
TOTAL LENGTH (inches)	NUMBER COLLECTED	PERCENT OF FISH COLLECTED	AVERAGE WEIGHT (pounds)	AGE OF FISH	TOTAL LENGTH (inches)	NUMBER COLLECTED	PERCENT OF FISH COLLECTED	AVERAGE WEIGHT (pounds)	AGE OF FISH
1.0					19.0				
1.5					19.5				
2.0					20.0				
2.5					20.5				
3.0					21.0				
3.5					21.5				
4.0					22.0				
4.5					22.5				
5.0					23.0				
5.5					23.5				
6.0	1	1.4	0.09	1	24.0				
6.5	2	2.7	0.13	1	24.5				
7.0	1	1.4	0.15	2	25.0				
7.5	2	2.7	0.18	2	25.5				
8.0	2	2.7	0.21	2	26.0				
8.5	1	1.4	0.26	2	TOTAL	73			
9.0	1	1.4	0.31	2					
9.5	1	1.4	0.36	2					
10.0									
10.5									
11.0	2	2.7	0.57	3					
11.5	2	2.7	0.65	3					
12.0	5	6.8	0.74	2, 3					
12.5	7	9.6	0.84	3					
13.0	10	13.7	0.95	3					
13.5	4	5.5	1.07	3					
14.0	5	6.8	1.19	4					
14.5	10	13.7	1.32	4, 5					
15.0	9	12.3	1.47	5					
15.5	3	4.1	1.62	5					
16.0	4	5.5	1.79	5					
16.5	1	1.4	1.96	5					
17.0									
17.5									
18.0									
18.5									

ELECTROFISHING CATCH	4.1/hr	GILL NET CATCH	1.8/lift	TRAP NET CATCH	0.0/lift

NUMBER, PERCENTAGE, WEIGHT, AND AGE OF SMALLMOUTH BASS									
TOTAL LENGTH (inches)	NUMBER COLLECTED	PERCENT OF FISH COLLECTED	AVERAGE WEIGHT (pounds)	AGE OF FISH	TOTAL LENGTH (inches)	NUMBER COLLECTED	PERCENT OF FISH COLLECTED	AVERAGE WEIGHT (pounds)	AGE OF FISH
1.0					19.0				
1.5					19.5				
2.0					20.0				
2.5					20.5				
3.0					21.0				
3.5	2	5.1	0.01	1	21.5				
4.0	8	20.5	0.02	1	22.0				
4.5	5	12.8	0.04	1	22.5				
5.0	2	5.1	0.05	1	23.0				
5.5	2	5.1	0.07	1	23.5				
6.0					24.0				
6.5					24.5				
7.0					25.0				
7.5	1	2.6	0.19	2	25.5				
8.0	4	10.3	0.23	2	26.0				
8.5	4	10.3	0.28	2, 3	TOTAL	39			
9.0	1	2.6	0.33	3					
9.5	3	7.7	0.40	3					
10.0	2	5.1	0.47	2, 3					
10.5									
11.0	1	2.6	0.63	not aged					
11.5									
12.0	1	2.6	0.82	3					
12.5	1	2.6	0.94	4					
13.0	1	2.6	1.06	4					
13.5									
14.0									
14.5									
15.0									
15.5	1	2.6	1.83	6					
16.0									
16.5									
17.0									
17.5									
18.0									
18.5									

ELECTROFISHING CATCH	5.6/hr	GILL NET CATCH	0.0/lift	TRAP NET CATCH	0.0/lift

NUMBER, PERCENTAGE, WEIGHT, AND AGE OF BLACK CRAPPIE									
TOTAL LENGTH (inches)	NUMBER COLLECTED	PERCENT OF FISH COLLECTED	AVERAGE WEIGHT (pounds)	AGE OF FISH	TOTAL LENGTH (inches)	NUMBER COLLECTED	PERCENT OF FISH COLLECTED	AVERAGE WEIGHT (pounds)	AGE OF FISH
1.0					19.0				
1.5					19.5				
2.0					20.0				
2.5					20.5				
3.0					21.0				
3.5	1	3.8	0.04	1	21.5				
4.0	1	3.8	0.04	1	22.0				
4.5					22.5				
5.0					23.0				
5.5					23.5				
6.0	1	3.8	0.11	2	24.0				
6.5	3	11.5	0.13	3, 4	24.5				
7.0	1	3.8	0.19	3	25.0				
7.5	5	19.2	0.23	3, 4	25.5				
8.0	7	26.9	0.25	3, 4, 6	26.0				
8.5	2	7.7	0.32	5, 6	TOTAL	26			
9.0	2	7.7	0.41	4					
9.5	1	3.8	0.47	3					
10.0	1	3.8	0.54	7					
10.5	1	3.8	0.72	5					
11.0									
11.5									
12.0									
12.5									
13.0									
13.5									
14.0									
14.5									
15.0									
15.5									
16.0									
16.5									
17.0									
17.5									
18.0									
18.5									

ELECTROFISHING CATCH	0.7/hr	GILL NET CATCH	0.8/lift	TRAP NET CATCH	0.3/lift

GPS LOCATION OF SAMPLING EQUIPMENT

GILL NETS

1	N	38.4113	W	-86.6300
2	N	38.4097	W	-86.6257
3	N	38.4102	W	-86.6207
4	N	38.4052	W	-86.6220
5	N	38.4193	W	-86.6590
6	N	38.4213	W	-86.6617
7	N	38.4185	W	-86.6647
8	N	38.4337	W	-86.6553
9	N	38.4387	W	-86.6887
10	N	38.4387	W	-86.6925
11	N	38.4332	W	-86.6917
12	N	38.4307	W	-86.6928
13	N	38.4118	W	-86.7093
14	N	38.4140	W	-86.7048
15	N	38.4122	W	-86.7040
16	N	38.4095	W	-86.7037
17	N	38.3878	W	-86.5990
18	N	38.3845	W	-86.5973
19	N	38.3847	W	-86.5918
20	N	38.3875	W	-86.5950
21	N	38.4065	W	-86.5953
22	N	38.4048	W	-86.5933
23	N	38.4060	W	-86.5982
24	N	38.4028	W	-86.5977

TRAP NETS

1	N	38.4040	W	-86.6452
2	N	38.4030	W	-86.6450
3	N	38.4173	W	-86.6602
4	N	38.4157	W	-86.6428
5	N	38.4368	W	-86.6840
6	N	38.4373	W	-86.6872
7	N	38.4082	W	-86.7143
8	N	38.4087	W	-86.7143
9	N	38.3933	W	-86.5972
10	N	38.3905	W	-86.5960
11	N	38.4047	W	-86.5908
12	N	38.4065	W	-86.5893

ELECTROFISHING

1	N	38.3665	W	-86.6847
	N	38.3642	W	-86.6878
2	N	38.3615	W	-86.6850
	N	38.3652	W	-86.6845
3	N	38.3737	W	-86.6848
	N	38.3750	W	-86.6813
4	N	38.3768	W	-86.6840
	N	38.3787	W	-86.6843
5	N	38.3733	W	-86.6967
	N	38.3722	W	-86.6938
6	N	38.4348	W	-86.7065
	N	38.3642	W	-86.7077
7	N	38.4308	W	-86.7070
	N	38.4295	W	-86.7118
8	N	38.4268	W	-86.7127
	N	38.4262	W	-86.7103
9	N	38.4267	W	-86.7102
	N	38.4267	W	-86.7072
10	N	38.4265	W	-86.7063
	N	38.4250	W	-86.7095
11	N	38.4250	W	-86.7035
	N	38.4023	W	-86.7015
12	N	38.3847	W	-86.5877
	N	38.3827	W	-86.5967
13	N	38.3848	W	-86.5918
	N	38.3877	W	-86.5947

ELECTROFISHING

14	N	38.3880	W	-86.5950
	N	38.3908	W	-86.5943
15	N	38.3907	W	-86.5952
	N	38.3940	W	-86.5968
16	N	38.3955	W	-86.5975
	N	38.3955	W	-86.5985
17	N	38.3958	W	-86.5983
	N	38.4433	W	-86.6198
18	N	38.4437	W	-86.6195
	N	38.4473	W	-86.6183
19	N	38.4473	W	-86.6193
	N	38.4450	W	-86.6205
20	N	38.4443	W	-86.6237
	N	38.4410	W	-86.6212
21	N	38.4403	W	-86.6207
	N	38.4397	W	-86.6252
22	N	38.4377	W	-86.6227
	N	38.4372	W	-86.6252
23	N	38.4367	W	-86.6168
	N	38.4360	W	-86.6117
24	N	38.4040	W	-86.6433
	N	38.4048	W	-86.6397
25	N	38.4053	W	-86.6395
	N	38.4075	W	-86.6375
26	N	38.4072	W	-86.6370
	N	38.4055	W	-86.6327
27	N	38.4048	W	-86.6328
	N	38.4052	W	-86.6290
28	N	38.4052	W	-86.6277
	N	38.4060	W	-86.6225

Species Bluegill	YEAR CLASS	NUMBER OF FISH AGED	SIZE RANGE	BACK CALCULATED LENGTH (inches) AT EACH AGE								
				I	II	III	IV	V	VI	VII	VIII	IX
Intercept= 0.8 inches	2003	11	1.4-2.9	2.0								
	2002	11	2.7-4.0	1.5	3.2							
	2001	15	3.8-5.7	1.8	3.4	4.4						
	2000	12	5.3-6.6	2.0	3.6	4.8	5.8					
	1999	7	6.7-7.7	1.8	3.3	4.9	6.2	6.9				
	1998	5	7.1-8.1	1.8	3.0	4.3	5.8	7.0	7.5			
	1997*	1	7.6	1.7	2.8	3.8	5.1	6.2	6.7	7.5		
	AVERAGE LENGTH			1.8	3.3	4.6	5.9	6.9	7.5			
	NUMBER AGED			62	61	50	39	24	12	5		

Species Largemouth bass	YEAR CLASS	NUMBER OF FISH AGED	SIZE RANGE	BACK CALCULATED LENGTH (inches) AT EACH AGE								
				I	II	III	IV	V	VI	VII	VIII	IX
Intercept= 0.8 inches	2003	32	3.0-6.8	4.2								
	2002	16	6.9-10.2	3.2	7.1							
	2001	27	9.2-13.2	4.0	7.1	10.1						
	2000	21	11.5-15.0	4.3	8.5	10.9	12.9					
	1999	11	14.3-16.0	5.0	7.9	10.5	13.3	14.8				
	1998	8	16.1-17.4	4.6	7.8	11.1	13.3	15.1	16.3			
	1997	9	17.2-18.5	4.9	8.5	11.2	13.6	15.1	16.4	17.5		
	1996*	2	18.9-21.2	4.7	7.5	11.2	14.5	16.2	17.8	18.8	19.7	
	1995*	1	20.8	4.5	6.9	11.0	12.8	14.9	17.7	18.6	19.8	20.7
	AVERAGE LENGTH			4.3	7.8	10.7	13.3	15.0	16.4	17.5	19.7	20.7
	NUMBER AGED			124	92	76	49	28	17	9		

Species White crappie	YEAR CLASS	NUMBER OF FISH AGED	SIZE RANGE	BACK CALCULATED LENGTH (inches) AT EACH AGE								
				I	II	III	IV	V	VI	VII	VIII	IX
Intercept= 1.4 inches	2003	9	4.0-5.3	4.0								
	2002	8	5.9-6.9	3.4	5.9							
	2001	12	6.3-9.5	3.4	5.8	7.5						
	2000	14	7.9-10.3	3.4	5.8	7.3	8.3					
	1999	11	7.7-10.8	3.3	5.5	6.9	8.0	9.3				
	1998	3	11.5-13.0	3.0	6.2	7.8	9.2	11.1	12.0			
	1997	4	11.8-12.9	3.2	6.0	7.9	8.9	10.2	11.4	12.3		
	AVERAGE LENGTH			3.5	5.8	7.3	8.4	9.8	11.6	12.3		
	NUMBER AGED			61	52	44	32	18	7	4		

Species Redear sunfish	YEAR CLASS	NUMBER OF FISH AGED	SIZE RANGE	BACK CALCULATED LENGTH (inches) AT EACH AGE								
				I	II	III	IV	V	VI	VII	VIII	IX
Intercept= 0.6 inches	2003*	1	2.7	2.6								
	2002*	1	4.3	2.4	3.8							
	2001	7	4.2-6.3	2.7	4.1	5.1						
	2000	6	6.5-7.1	2.3	4.2	5.6	6.6					
	1999	9	7.3-9.3	2.0	4.4	6.0	7.2	7.8				
	1998	5	7.5-9.2	1.9	4.2	5.8	7.1	7.8	8.2			
	1997*	1	8.9	1.5	2.9	4.9	6.5	7.3	8.1	8.7		
	AVERAGE LENGTH			2.3	4.2	5.6	6.9	7.8	8.2			
	NUMBER AGED			27	27	27	20	14	5			

*Not included in average length calculations.

Species White bass	YEAR CLASS	NUMBER OF FISH AGED	SIZE RANGE	BACK CALCULATED LENGTH (inches) AT EACH AGE							
				I	II	III	IV	V	VI	VII	VIII
Intercept= 0.7 inches	2003	3	5.9-6.6	4.9							
	2002	8	6.8-12.1	5.2	7.6						
	2001	17	11.1-13.8	5.0	8.3	12.0					
	2000	10	14.1-14.7	6.4	10.6	13.0	14.1				
	1999	10	14.3-16.3	6.2	11.9	13.6	14.5	15.2			
	AVERAGE LENGTH			5.6	9.5	12.7	14.3	15.2			
	NUMBER AGED			48	45	37	20	10			

Species Smallmouth bass	YEAR CLASS	NUMBER OF FISH AGED	SIZE RANGE	BACK CALCULATED LENGTH (inches) AT EACH AGE							
				I	II	III	IV	V	VI	VII	VIII
Intercept= 1.4 inches	2003	15	3.7-5.6	3.8							
	2002	9	7.7-10.1	3.7	7.9						
	2001	6	8.7-11.9	4.1	7.2	9.1					
	2000*	2	12.3-13.0	4.2	6.4	9.6	12.0				
	1999*	0									
	1998*	1	15.4	3.3	5.9	10.1	12.2	13.6	15.0		
	AVERAGE LENGTH			4.1	6.4	9.1					
	NUMBER AGED			33	18	9					

Species Black crappie	YEAR CLASS	NUMBER OF FISH AGED	SIZE RANGE	BACK CALCULATED LENGTH (inches) AT EACH AGE							
				I	II	III	IV	V	VI	VII	VIII
Intercept= 1.4 inches	2003*	2	3.5-3.9	3.4							
	2002*	1	6.1	3.7	5.6						
	2001	8	6.4-9.3	3.1	5.0	6.8					
	2000	8	6.7-9.0	3.1	5.0	6.4	7.6				
	1999*	2	8.3-10.5	3.0	4.7	6.2	8.0	9.2			
	1998*	2	8.2-8.7	2.8	4.9	6.1	6.8	7.6	8.2		
	1997*	1	10.2	3.1	4.4	7.0	7.5	8.5	9.2	10.0	
	AVERAGE LENGTH			3.1	5.0	6.6	7.6				
	NUMBER AGED			16	16	16	8				

*Not included in average length calculations.

APPENDIX B

LARGEMOUTH BASS TOURNAMENT MONITORING DATA

Appendix B. Largemouth bass tournament monitoring results for legal size bass, Patoka Lake 2004.

Length	TOURNAMENT DATES																										Percent
(inches)	3/14	3/20	3/21	3/28	4/3	4/4	4/18	4/21	5/15	5/16	5/22*	5/23	6/6	6/12	6/19	6/27	7/17	8/15	8/22	9/11	9/12	9/25	9/26	10/2	10/02*	10/03*	Totals	by length
15	85	4	11	52	20	17	7	30	165	11		11	9	4	10	4	5	48	2	22	10	29	27	1			584	17.3
15.5	30	8	13	27	17	16	16	22		5		13	7	4	14	3	3	43	4	14	12	20	18	6			315	9.3
16	44	5	22	55	18	29	19	69	170	4		19	5	4	17	7	5	31	4	12	12	23	12	5			591	17.5
16.5	29	10	13	41	11	20	15	17		5		7	5	8	3	3	6	27	3	6	8	18	17	5			277	8.2
17	40	11	13	47	11	27	12	62	122	8		12	8	8	10	2	8	19	2	9	13	19	14	6			483	14.3
17.5	31	2	6	16	10	12	13	11		3		8	4	1		3	3	16			15	16	7	4			181	5.4
18	15	3	7	47	7	25	15	50	95	4		6	7	4	9	3	3	7			13	11	4	6			341	10.1
18.5	15	6	4	24	4	11	19	11		3		8		3		1	4	5	2		10	9	2	3			144	4.3
19	7		9	15	5	20	9	35	42	3		4	3	3		1	2	5	2		7	4	3	2			181	5.4
19.5	3	1	6	4	6	9	6	2		4		3	2	2			1	1	1		2	3	2	1			59	1.7
20	3	2	7	8	7	9	8	14	9	2		3	1	1	1		1	1			3	2		1			83	2.5
20.5	2	1		3	3	3	7			2		1		2		3	2				3	1		1			34	1.0
21	2	4	1		4	8	1	10	7	3			2	1			1	1			2	1	1				49	1.4
21.5			1		4	3				3						1					3						15	0.4
22				2		2				5			1			1											11	0.3
22.5										3						2	1				1						7	0.2
23				6						3			1			1											11	0.3
23.5				1																							1	<0.1
24				4						1						1											6	0.2
24.5				1																							1	<0.1
25				6																							6	0.2
25.5																											0	0
26				1																							1	<0.1
Number of bass caught	306	57	113	360	127	211	147	333	610	72	446	95	55	45	64	36	45	204	20	63	114	156	107	41	114	32	3,381	
Number of anglers	356	74	160	268	224	210	200	130	254	36	358	94	38	89	30	34	32	236	32	190	180	120	120	50	81	81	3,677	
Tournament length (hrs)	9.0	8.0	8.0	8.0	8.5	8.5	8.0	8.0	10.0	8.3	8.0	8.0	9.0	7.0	8.5	8.5	9.0	9.0	8.0	8.5	8.0	9.0	9.0	8.0	8.0	8.0		
Catch rate (#/hour)	0.096	0.096	0.088	0.168	0.067	0.118	0.092	0.320	0.240	0.242	0.156	0.126	0.161	0.072	0.251	0.125	0.156	0.096	0.078	0.039	0.079	0.144	0.099	0.103	0.176	0.049	0.143	
Weight of big bass (lbs)	7.08	5.90	6.00	6.96	5.95	6.49	5.28	5.80	5.24	5.04	5.69	5.52	6.75	5.50	4.88	6.15	5.29	6.44	4.72	4.15	5.90	5.21	6.34	5.20			5.73	

* Bass not measured.

APPENDIX C

STRIPED BASS SURVEY DATA

SAMPLING EFFORT					
ELECTROFISHING	Day hours		Night hours		Total hours
TRAP NETS	Number of traps		Number of Lifts		Total effort
Striped bass GILL NETS	Number of nets: 4		Number of Lifts: 3		Total effort: 12 Lifts
ROTENONE	Gallons	ppm	Acre Feet Treated	SHORELINE SEINING	Number of 100 Foot Seine Hauls

PHYSICAL AND CHEMICAL CHARACTERISTICS	
Color: Light green	Turbidity: 7 Feet 6 Inches (SECCHI DISK)
Alkalinity (ppm)* Surface: Bottom:	pH Surface: Bottom:
Conductivity: micromhos	Air temperature: °F
Water chemistry GPS coordinates: N 38.43255	W -86.69616

TEMPERATURE AND DISSOLVED OXYGEN (D.O.)								
DEPTH (FEET)	Degrees (°F)	D.O. (ppm)	DEPTH (FEET)	DEGREES (°F)	D.O. (ppm)	DEPTH (FEET)	DEGREES (°F)	D.O. (ppm)
SURFACE	81.5	9.2	36	59.0	0.3	72		
2	81.5	9.1	38	58.0	0.2	74		
4	81.5	9.0	40	57.0	0.3	76		
6	81.5	9.0	42	56.5	0.3	78		
8	81.5	9.0	44	56.5	0.2	80		
10	81.0	8.9	46			82		
12	81.0	8.8	48			84		
14	81.0	8.5	50			86		
16	80.0	7.0	52			88		
18	75.0	2.1	54			90		
20	73.0	0.6	56			92		
22	68.0	0.5	58			94		
24	67.0	0.6	60			96		
26	64.5	0.6	62			98		
28	62.5	0.4	64			100		
30	61.0	0.5	66					
32	60.5	0.4	68					
34	60.0	0.3	70					

COMMENTS
See standard survey appendix for water chemistry data.

*ppm-parts per million

SPECIES AND RELATIVE ABUNDANCE OF FISHES COLLECTED BY NUMBER AND WEIGHT					
*COMMON NAME OF FISH	NUMBER	PERCENT	LENGTH RANGE (inches)	WEIGHT (pounds)	PERCENT
Striped bass	43	100.0	26.3 - 33.8	399.25	100.0

*Common names of fishes recognized by the American Fisheries Society.

NUMBER, PERCENTAGE, WEIGHT, AND AGE OF STRIPED BASS									
TOTAL LENGTH (inches)	NUMBER COLLECTED	PERCENT OF FISH COLLECTED	AVERAGE WEIGHT (pounds)	AGE OF FISH	TOTAL LENGTH (inches)	NUMBER COLLECTED	PERCENT OF FISH COLLECTED	AVERAGE WEIGHT (pounds)	AGE OF FISH
1.0					19.0				
1.5					19.5				
2.0					20.0				
2.5					20.5				
3.0					21.0				
3.5					21.5				
4.0					22.0				
4.5					22.5				
5.0					23.0				
5.5					23.5				
6.0					24.0				
6.5					24.5				
7.0					25.0				
7.5					25.5				
8.0					26.0				
8.5					26.5	5	30.3	6.95	5
9.0					27.0	3	18.2	7.92	5, 6
9.5					27.5	2	12.1	7.38	5
10.0					28.0	4	24.2	8.06	6
10.5					28.5	7	42.4	8.93	6
11.0					29.0	4	24.2	9.13	6
11.5					29.5	4	24.2	9.00	6
12.0					30.0	4	24.2	9.69	6
12.5					30.5	2	12.1	11.00	6, 7
13.0					31.0	1	6.1	10.50	7
13.5					31.5	4	24.2	12.00	7
14.0					32.0	1	6.1	12.50	7
14.5					32.5	1	6.1	12.50	7
15.0					33.0				
15.5					33.5				
16.0					34.0	1	6.1	14.50	7
16.5					TOTAL	43			
17.0									
17.5									
18.0									
18.5									

ELECTROFISHING CATCH	N/A	GILL NET CATCH	3.6 /lift	TRAP NET CATCH	N/A

Species Striped bass	YEAR CLASS	NUMBER OF FISH AGED	SIZE RANGE	BACK CALCULATED LENGTH (inches) AT EACH AGE							
				I	II	III	IV	V	VI	VII	VIII
Intercept= 0	2003*	0									
	2002	7	12.1-14.1	4.1	12.2						
	2001*	1	19.5	6.8	14.4	18.5					
	2000*	0									
	1999	9	26.3-27.5	4.6	12.6	18.8	23.2	26.0			
	1998	17	27.2-30.7	4.7	12.4	18.7	23.5	26.4	28.3		
	1997	6	30.7-33.8	5.0	13.7	19.1	24.5	27.9	29.9	31.4	
	AVERAGE LENGTH			4.6	12.7	18.9	23.7	26.7	29.1	31.4	
	NUMBER AGED			39	39	32	32	32	23	6	

*Not included in average length calculations.

GPS LOCATION OF SAMPLING EQUIPMENT

GILL NETS				TRAP NETS			ELECTROFISHING		
1	N 38.431917	W	-86.703150	1	N	W	1	N	W
2	N 38.425817	W	-86.702517	2	N	W		N	W
3	N 38.428850	W	-86.701467	3	N	W	2	N	W
4	N 38.434217	W	-86.697000	4	N	W		N	W
5	N 38.433733	W	-86.687533	5	N	W	3	N	W
6	N 38.433400	W	-86.691633	6	N	W		N	W
7	N 38.428417	W	-86.642033	7	N	W	4	N	W
8	N 38.421417	W	-86.658550	8	N	W		N	W
9	N 38.405700	W	-86.620283	9	N	W	5	N	W
10	N 38.400033	W	-86.620633	10	N	W		N	W
11	N 38.393833	W	-86.619850	11	N	W	6	N	W
12	N 38.405117	W	-86.617633	12	N	W		N	W
13	N	W		13	N	W	7	N	W
14	N	W		14	N	W		N	W
15	N	W		15	N	W	8	N	W
16	N	W		16	N	W		N	W
17	N	W		17	N	W	9	N	W
18	N	W		18	N	W		N	W
19	N	W		19	N	W	10	N	W
20	N	W		20	N	W		N	W
							11	N	W
								N	W
							12	N	W
								N	W
							13	N	W
								N	W
							14	N	W
								N	W
							15	N	W
								N	W
							16	N	W
								N	W
							17	N	W
								N	W
							18	N	W
								N	W
							19	N	W
								N	W
							20	N	W
								N	W

APPENDIX D

SPRING CRAPPIE SURVEY DATA

SAMPLING EFFORT					
ELECTROFISHING	Day hours		Night hours		Total hours
TRAP NETS	Number of traps 5 to 7		Number of Lifts 5		Total effort 27 Lifts
GILL NETS	Number of nets		Number of Lifts		Total effort
ROTENONE	Gallons	ppm	Acre Feet Treated	SHORELINE SEINING	Number of 100 Foot Seine Hauls

PHYSICAL AND CHEMICAL CHARACTERISTICS	
Color Muddy	Turbidity 1 Feet 6 Inches (SECCHI DISK)
Alkalinity (ppm)* Surface: Bottom:	pH Surface: 8.6 Bottom:
Conductivity: micromhos	Air temperature: °F 36.5
Water chemistry GPS coordinates: N 38.4178	W -86.5345

TEMPERATURE AND DISSOLVED OXYGEN (D.O.)								
DEPTH (FEET)	Degrees (°F)	D.O. (ppm)	DEPTH (FEET)	DEGREES (°F)	D.O. (ppm)	DEPTH (FEET)	DEGREES (°F)	D.O. (ppm)
SURFACE	43.0	13.5	36			72		
2			38			74		
4			40			76		
6			42			78		
8			44			80		
10			46			82		
12			48			84		
14			50			86		
16			52			88		
18			54			90		
20			56			92		
22			58			94		
24			60			96		
26			62			98		
28			64			100		
30			66					
32			68					
34			70					

COMMENTS

*ppm-parts per million

SPECIES AND RELATIVE ABUNDANCE OF FISHES COLLECTED BY NUMBER AND WEIGHT					
*COMMON NAME OF FISH	NUMBER	PERCENT	LENGTH RANGE (inches)	WEIGHT (pounds)	PERCENT
White crappie	1,773	91.4	3.5 - 15.2	183.84	89.7
Black crappie	167	8.6	2.8 - 16.4	21.23	10.4
Totals	1,940			205.07	

*Common names of fishes recognized by the American Fisheries Society.

NUMBER, PERCENTAGE, WEIGHT, AND AGE OF WHITE CRAPPIE									
TOTAL LENGTH (inches)	NUMBER COLLECTED	PERCENT OF FISH COLLECTED	AVERAGE WEIGHT (pounds)	AGE OF FISH	TOTAL LENGTH (inches)	NUMBER COLLECTED	PERCENT OF FISH COLLECTED	AVERAGE WEIGHT (pounds)	AGE OF FISH
1.0					19.0				
1.5					19.5				
2.0					20.0				
2.5					20.5				
3.0					21.0				
3.5	29	1.6	0.02	1	21.5				
4.0	275	15.5	0.02	1	22.0				
4.5	285	16.1	0.03	1	22.5				
5.0	4	0.2	0.06	2	23.0				
5.5	118	6.7	0.09	2	23.5				
6.0	159	9.0	0.10	2, 3	24.0				
6.5	471	26.6	0.12	2, 3, 4	24.5				
7.0	288	16.2	0.14	3, 4, 5	25.0				
7.5	65	3.7	0.17	4	25.5				
8.0	38	2.1	0.20	4, 5	26.0				
8.5	14	0.8	0.25	4, 5	TOTAL	1,773			
9.0	8	0.5	0.27	4, 5, 6					
9.5	2	0.1	0.41	5					
10.0	3	0.2	0.56	5					
10.5	4	0.2	0.50	5, 6					
11.0	1	0.1	0.74	6					
11.5	3	0.2	0.73	5, 6, 7					
12.0									
12.5									
13.0	1	0.1	1.23	5					
13.5									
14.0	1	0.1	1.42	not aged					
14.5									
15.0	4	0.2	1.89	7					
15.5									
16.0									
16.5									
17.0									
17.5									
18.0									
18.5									

ELECTROFISHING CATCH	N/A	GILL NET CATCH	N/A	TRAP NET CATCH	65.7/lift

NUMBER, PERCENTAGE, WEIGHT, AND AGE OF BLACK CRAPPIE									
TOTAL LENGTH (inches)	NUMBER COLLECTED	PERCENT OF FISH COLLECTED	AVERAGE WEIGHT (pounds)	AGE OF FISH	TOTAL LENGTH (inches)	NUMBER COLLECTED	PERCENT OF FISH COLLECTED	AVERAGE WEIGHT (pounds)	AGE OF FISH
1.0					19.0				
1.5					19.5				
2.0					20.0				
2.5					20.5				
3.0	1	0.6	0.02	1	21.0				
3.5	13	7.8	0.02	1	21.5				
4.0	14	8.4	0.02	1, 2	22.0				
4.5					22.5				
5.0	5	3.0	0.05	2	23.0				
5.5	12	7.2	0.07	2, 3	23.5				
6.0	23	13.8	0.09	3	24.0				
6.5	40	24.0	0.12	3, 4	24.5				
7.0	37	22.2	0.14	3, 4	25.0				
7.5	13	7.8	0.19	3, 4	25.5				
8.0	5	3.0	0.23	3, 4	26.0				
8.5	2	1.2	0.28	3, 4	TOTAL	167			
9.0	1	0.6	0.40	4					
9.5									
10.0									
10.5									
11.0									
11.5									
12.0									
12.5									
13.0									
13.5									
14.0									
14.5									
15.0									
15.5									
16.0									
16.5	1	0.6	2.91	not aged					
17.0									
17.5									
18.0									
18.5									

ELECTROFISHING CATCH	N/A	GILL NET CATCH	N/A	TRAP NET CATCH	6.1/lift

Species White crappie	YEAR CLASS	NUMBER OF FISH AGED	SIZE RANGE	BACK CALCULATED LENGTH (inches) AT EACH AGE							
				I	II	III	IV	V	VI	VII	VIII
Intercept= 1.4 inches	2003	24	3.5-4.7	4.1							
	2002	21	5.2-6.3	4.0	5.6						
	2001	9	6.1-7.2	3.8	5.2	6.4					
	2000	34	6.5-9.2	3.9	5.3	6.8	7.6				
	1999	15	7.1-13.2	3.5	5.3	6.7	8.2	9.6			
	1998	4	9.0-11.4	3.2	5.4	6.7	8.0	9.1	10.5		
	1997	3	11.6-14.9	2.9	5.2	7.1	9.0	10.1	12.0	13.5	
	AVERAGE LENGTH			3.9	5.4	6.7	7.9	9.6	11.1	13.5	
	NUMBER AGED			110	86	65	56	22	7	3	

Species Black crappie	YEAR CLASS	NUMBER OF FISH AGED	SIZE RANGE	BACK CALCULATED LENGTH (inches) AT EACH AGE							
				I	II	III	IV	V	VI	VII	VIII
Intercept= 1.4 inches	2003	13	2.8-4.2	3.7							
	2002	12	3.9-5.6	4.0	5.2						
	2001	19	5.6-8.4	3.8	5.3	6.5					
	2000	19	6.5-9.1	3.5	4.9	6.4	7.3				
	AVERAGE LENGTH			3.7	5.1	6.4	7.3				
	NUMBER AGED			63	50	38	19				

GPS LOCATION OF SAMPLING EQUIPMENT

GILL NETS		
1	N	W
2	N	W
3	N	W
4	N	W
5	N	W
6	N	W
7	N	W
8	N	W
9	N	W
10	N	W
11	N	W
12	N	W
13	N	W
14	N	W
15	N	W
16	N	W
17	N	W
18	N	W
19	N	W
20	N	W

TRAP NETS		
1	N 38.4178	W -86.5345
2	N 38.4185	W -86.5321666
3	N 38.4188	W -86.5325
4	N 38.4188	W -86.5318333
5	N 38.4197	W -86.5321666
6	N 38.4160	W -86.5391666
7	N 38.4175	W -86.5381666
8	N 38.4178	W -86.5345
9	N 38.4185	W -86.5321666
10	N 38.4188	W -86.5325
11	N 38.4188	W -86.5318333
12	N 38.4197	W -86.5321666
13	N 38.4178	W -86.5345
14	N 38.4185	W -86.5321666
15	N 38.4188	W -86.5325
16	N 38.4188	W -86.5318333
17	N 38.4197	W -86.5321666
18	N 38.4178	W -86.5345
19	N 38.4185	W -86.5321666
20	N 38.4188	W -86.5325
21	N 38.4188	W -86.5318333
22	N 38.4197	W -86.5321666
23	N 38.4045	W -86.5901666
24	N 38.4060	W -86.5896666
25	N 38.4083	W -86.5868333
26	N 38.4068	W -86.5871666
27	N 38.4102	W -86.5875

ELECTROFISHING		
1	N	W
	N	W
2	N	W
	N	W
3	N	W
	N	W
4	N	W
	N	W
5	N	W
	N	W
6	N	W
	N	W
7	N	W
	N	W
8	N	W
	N	W
9	N	W
	N	W
10	N	W
	N	W
11	N	W
	N	W
12	N	W
	N	W
13	N	W
	N	W
14	N	W
	N	W
15	N	W
	N	W
16	N	W
	N	W
17	N	W
	N	W
18	N	W
	N	W
19	N	W
	N	W
20	N	W
	N	W